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CITY of WESTMINSTER

December 12, 1990

DEC 13 1990

Public Works and Utilities

4800 West 92nd Avenue
Westminster Colorado
80030

303 430 2400
FAX 303 426 5857

Ms Debbie Mauer
Colorado Department of Health
Hazardous Materials and Waste Management Division
4210 East Eleventh Avenue
Denver, Colorado 80220

Dear Debbie

Thank you for your phone call of December 6, in which we discussed the status of the Cities' interceptor canal project In our conversation you requested a copy of the revised soil sampling plan and a copy of the preliminary plutonium results In addition, you asked that the Colorado Department of Health (CDH) be included in all future meetings and correspondence regarding the interceptor canal to ensure CDH is apprised of the progress of this project.

Enclosed is a copy of the revised soil sampling plan used in the October 29 sampling of soils along the potential interceptor canal alignment. The soil results will be used in conjunction with additional information to select a final canal alignment.

I am including a copy of the preliminary plutonium results received from the private laboratory As you will note, the preliminary results indicate plutonium concentrations in the soils are below the State construction standard of 2 d/m/g

I will inform you of any future meetings between the Cities and EPA as we move forward in the construction of the Cities' interceptor canal around Standley Lake.

Sincerely,

Susan Nachtrieb

Susan Nachtrieb
Water Quality Coordinator

Attachments

cc Bonnie Lavelle, EPA
Ron Hellbusch, Director of Public Works/Utilities
Kelly DiNatale, Water Resources Manager

STANDLEY LAKE INTERCEPTOR CANAL
PRELIMINARY SOIL SAMPLING PLAN
October 29, 1990

The following sampling plan has been developed to provide an initial assessment of plutonium and other radionuclide content in the surface soil along the potential route of the Interceptor Canal which will be built around Standley Lake to prevent runoff from the Rocky Flats Plant from entering the drinking water supply. The attached map illustrates the revised sampling transects and sample groups.

The original 7 transect alignments will be used to encompass the alternative canal alignments. Based on each transect's length, the transect will be divided into groups. Each group will be divided into 5 sub-groups spaced evenly throughout the group. Each sub-group will be sampled by collecting at least 5 scoops of soil. The 5 sub-groups will be composited into a single sample for that group. A total of 15 composited group samples will be collected. This revision in the sampling plan will more than double the number of soil samples that were originally intended for analysis.

Sampling Transect	Description
1	Woman Creek at Church Ditch running approximately 2,800 feet southeast to Woman Creek 100 feet east of Alkire; consists of 3 groups of samples
2	100 feet east of Alkire, beginning 50 feet north of the Church Ditch, running approximately 1,900 feet south to Woman Creek; consists of 3 groups of samples
3	2,100 feet east of Alkire, beginning 50 feet north of the Church Ditch, running approximately 2,400 feet south to the old Broomfield Highline Canal; consists of 3 groups of samples
4	4,100 feet east of Alkire, 150 feet south of 100th Avenue, running approximately 1,200 feet south to the old Broomfield Highline Canal; consists of 2 groups of samples
5	6,100 feet east of Alkire, 250 feet south of 100th Avenue to approximately 1,000 feet south to an area approximately 200 to 400 feet north of existing high water line; consists of 2 groups of samples
6	8,100 feet east of Alkire, 100 feet south of 100th Avenue, running approximately 700 feet south to the low point in draw (approximately 800 feet south of 100th); consists of 1 group sample

7	Perpendicular to dam, approximately 1,100 feet south of spillway, 400 feet from toe of dam, running approximately 900 feet northeast to fence line to the east; consists of 1 group sample

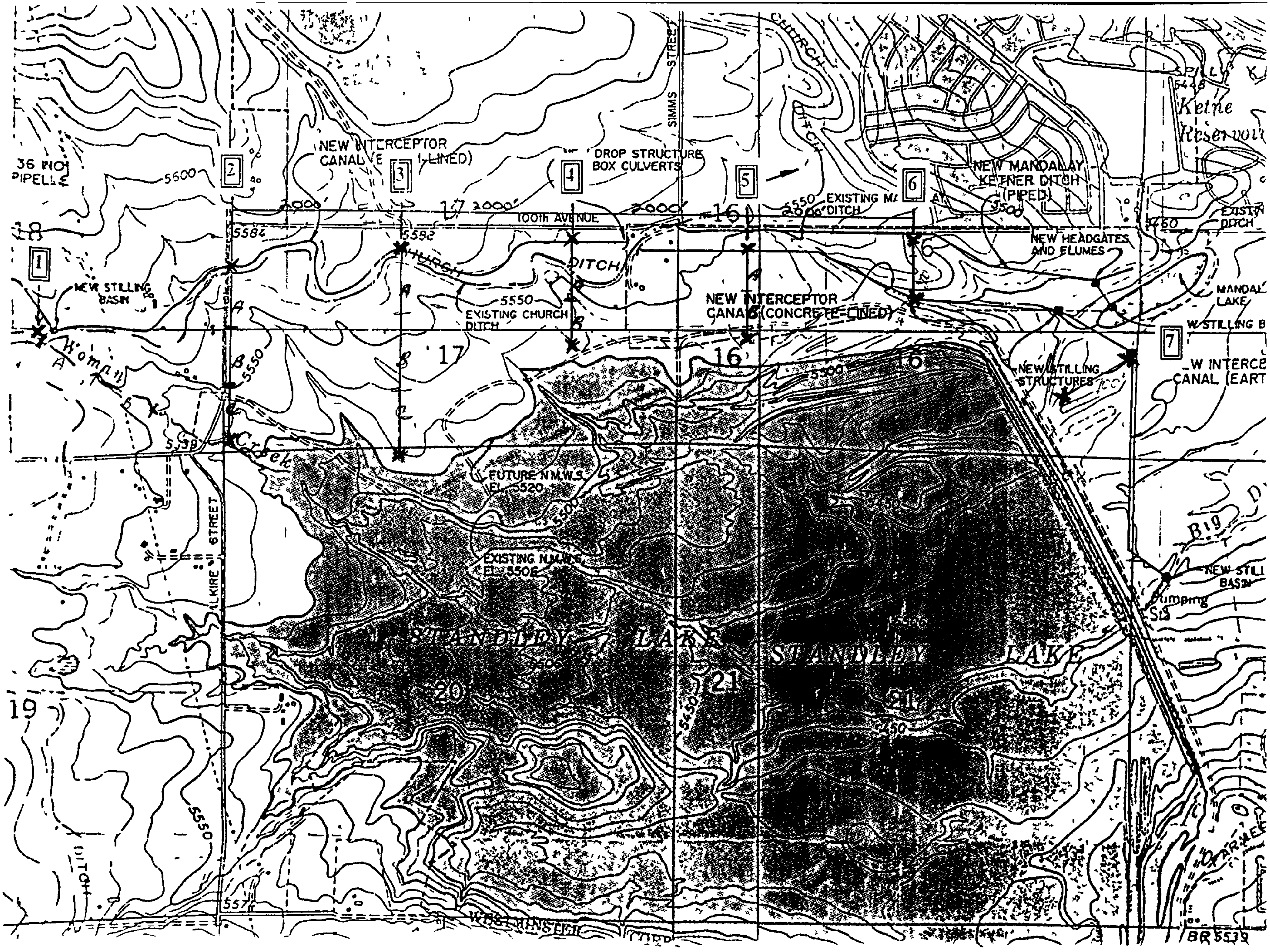
Soil sampling will be conducted by the Colorado Department of Health (CDH) personnel and City of Westminster staff according to CDH guidance using the CDH soil sampling procedure of 1975 with the sampling transect and group modifications which pertain specifically to this project. The 15 composite samples will be transported to CDH where they will undergo a 3-way split using the ASTM riffle procedure and be analyzed for their radionuclide content.

The sample analyses conducted by CDH will include:

plutonium-239
americium-241
uranium 234/uranium 238 ratio
uranium-natural
cesium-137 (along with 19-21 other fission products)

The complete radiological results from CDH are not expected until February 1991. As a preview of the plutonium concentrations in the soils and as an independent verification of the CDH plutonium results, a split from each of the 15 composited samples will be sent to a private laboratory for plutonium analysis. The remaining split will be archived. In the event of a conflict in plutonium concentrations between the two laboratory results, the remaining archived soil samples will be available for re-analysis.

As a precautionary measure, an OSHA trained representative will be on-site during the sampling procedure to ensure that the CDH personnel and Westminster staff are not unnecessarily exposed to possible contamination from improper handling of the samples and by exposure from fugitive dust through the normal exposure pathways.


36 INCH PIPELINE
NEW STILLING BASIN
NEW INTERCEPTOR CANAL
DROP STRUCTURE BOX CULVERTS
EXISTING CHURCH DITCH
100th AVENUE
SIMMS STREET
CHURCH DITCH
EXISTING DITCH
NEW MANDALAY KETNER DITCH (PIPED)
NEW HEADGATES AND FLUMES
NEW INTERCEPTOR CANAL (CONCRETE-LINED)
MANDALAY LAKE
W STILLING B
W INTERCE CANAL (EART
NEW STILLING STRUCTURES
FUTURE N.M.W.S. EL 5520
EXISTING N.M.W.S. EL 5506
STANDLEY LAKE
STANDLEY LAKE
Ketner Reservoir
Big Dry
NEW STILL BASIN
Pumping Sta
Woman Creek
KIPLING STREET
WESTMINSTER
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ACCU-LABS RESEARCH, INC.

11485 West 48th Avenue - Wheat Ridge, CO 80033 - (303) 423-2766

A N A L Y S I S R E P O R T

DATE: 11/19/90 PAGE 1

SUSAN NACHTRIEB
CITY OF WESTMINSTER
4800 W. 92ND. AVENUE
WESTMINSTER, CO 80030

Lab Job Number: 9337-36126-15
Date Samples Received: 11/05/90
Customer PO Number: (none)

These samples to be disposed of 30 days after the date of this report

	ALR Designation -	9337-36126-15-1	9337-36126-15-2	9337-36126-15-3	9337-36126-15 4
	Sponsor Designation -	1-A	1-B	1-C	2-A
	Date Collected -	10/29/90	10/29/90	10/29/90	10/29/90
Determinations in pCi/g unless noted					
Plutonium-239+240 - total		0 61 ± 0 06 *	0 73 ± 0 06 *	0 29 ± 0 04 *	0 04 ± 0 02 *

	ALR Designation -	9337-36126-15-5	9337-36126-15-6	9337-36126-15-7	9337-36126-15-8
	Sponsor Designation -	2-B	2-C	3-A	3-B
	Date Collected -	10/29/90	10/29/90	10/29/90	10/29/90
Plutonium-239+240 - total		0 03 ± 0 01 *	0 09 ± 0 02 *	0 04 ± 0 02 *	0 04 ± 0 01 *

	ALR Designation -	9337-36126-15-9	9337-36126-15-10	9337-36126-15-11	9337-36126-15 12
	Sponsor Designation -	3-C	4-A	4-B	5-A
	Date Collected -	10/29/90	10/29/90	10/29/90	10/29/90
Plutonium-239+240 - total		0 16 ± 0 03 *	0 04 ± 0 02 *	0 02 ± 0 01 *	0 07 ± 0 02 *

	ALR Designation -	9337-36126-15-13	9337-36126-15-14	9337-36126-15-15
	Sponsor Designation -	5-B	6	7
	Date Collected -	10/29/90	10/29/90	10/29/90
Plutonium-239+240 - total		0 13 ± 0 03 *	0 06 ± 0 02 *	0 22 ± 0 03 *

* Variability of the radioactive disintegration process (counting error) at the 95% confidence level, 1 96σ

By: Bud Summers
Radiochemistry Supervisor

BS/dh